LOWER BATHONIAN AMMONITES OF SERRA DE LA CREU (CATALAN BASIN, SPAIN)

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The study of ammonites of the Bajocian/Bathonian boundary from Serra de la Creu (Tivissa, province of Tarragona), a locality of the Catalan Basin, allows to recognize several bio- and chronostratigraphic units commonly missing in the Iberian Basin. The Parkinsoni Zone (Upper Bajocian) and the lowermost Zigzag Zone (Lower Bathonian) established for NW European areas can be identified in the Catalan and Iberian basins (Spain). The stratigraphical interval CR164-CR240 belongs to the Lower Bathonian. Ammonites allow recognition of the Zigzag and Aurigerus zones, defined in the Submediterranean Province. The lowermost zone of the Bathonian yields abundant perisphinctids and morphoceratids: *Lobosphictes* [M] - *Planisphinctes* [m], *Procerozigzag* [M] - *Zigzagiceras* [m], *Procerites* [M] - *Siemiradzkia* [m], *Pseudodimorphinites* [M+m] and *Morphoceras* [M] - *Ebrayiceras* [m]. Two subzones can be recognized in the Zigzag Zone, respectively Parvum and Macrescens, the former being the better developed at the Tivissa area. The first (levels CR164- CR127) yields the earliest *Pseudodimorphinites* [M+m] and *Morphoceras* [M] - *Ebrayiceras* [m], proving the Submediterranean Parvum Subzone. The second subzone of the Zigzag Zone (levels CR128-CR235), characterized by *Morphoceras macrescens* (BUCKMAN) associated to *Procerozigzag* [M] - *Zigzagiceras* [m], belongs to the Submediterranean Macrescens Subzone. Above CR235, the Aurigerus Zone is characterized by the first occurrence of *Bullatimorphites* [M], associated with *Morphoceras* [M] - *Ebrayiceras* [m] and the last specimens of *Procerozigzag* [M] - *Zigzagiceras* [m].

In the Iberian Basin, Middle Jurassic Phylloceratina and Lytoceratina represent less than 1% of the whole of ammonoids and Lower Bathonian parkinsonids are scarce. A Sub-Mediterranean zonation can be recognized in the Vasco-Cantabrian and Iberian basins and has also been applied to the Serra de la Creu (Tivissa) succession in the Catalan Basin. However, exceptional ammonoids recorded in the Iberian and Catalan basins at the uppermost Bajocian and Lower Bathonian correspond to adult individuals, arrived by necroplanktic drift from more open marine or oceanic areas. In the Serra de la Creu (Tivissa) section, the total number of the Lower Bathonian studied ammonites is up 100. Specimens of the family Perisphinctidae are common (50,5 %). Zigzagiceratinae of the genera *Lobosphictes* [M] - *Planisphinctes* [m] and *Procerites* [M] - *Siemiradzkia* [m] are the most common ammonites in the Zigzag Zone. *Procerozigzag* [M] - *Zigzagiceras* [m] are fairly common. Among the Morphoceratidae (28,0 %), *Morphoceras* [M] - *Ebrayiceras* [m] are one of the most common ammonites in some levels of the Lower Bathonian. *Pseudodimorphinites* [M+m] occur. Parkinsoniinae of the genera *Gonolkites* [M] - *Parkinsonia* [m] are scarce. Representatives of the family Oppeliidae are scarce (15,0 %), but macroconch (*Oxycerites*) and microconch (*Paroecotraustes*) forms occur. Very scarce are the families Strigoceratidae (2,8 %), Tulitidae (1,9 %), Stephanoceratidae (0,9 %) and Lissoceratidae (0,9 %). Consequently, the Parkinsoni Zone (Upper Bajocian) and the lowermost Zigzag Zone (Lower Bathonian) established for NW Europe areas can be identified in the Catalan and Iberian basins, although the ammonite fossil assemblages are composed by Submediterranean taxa.

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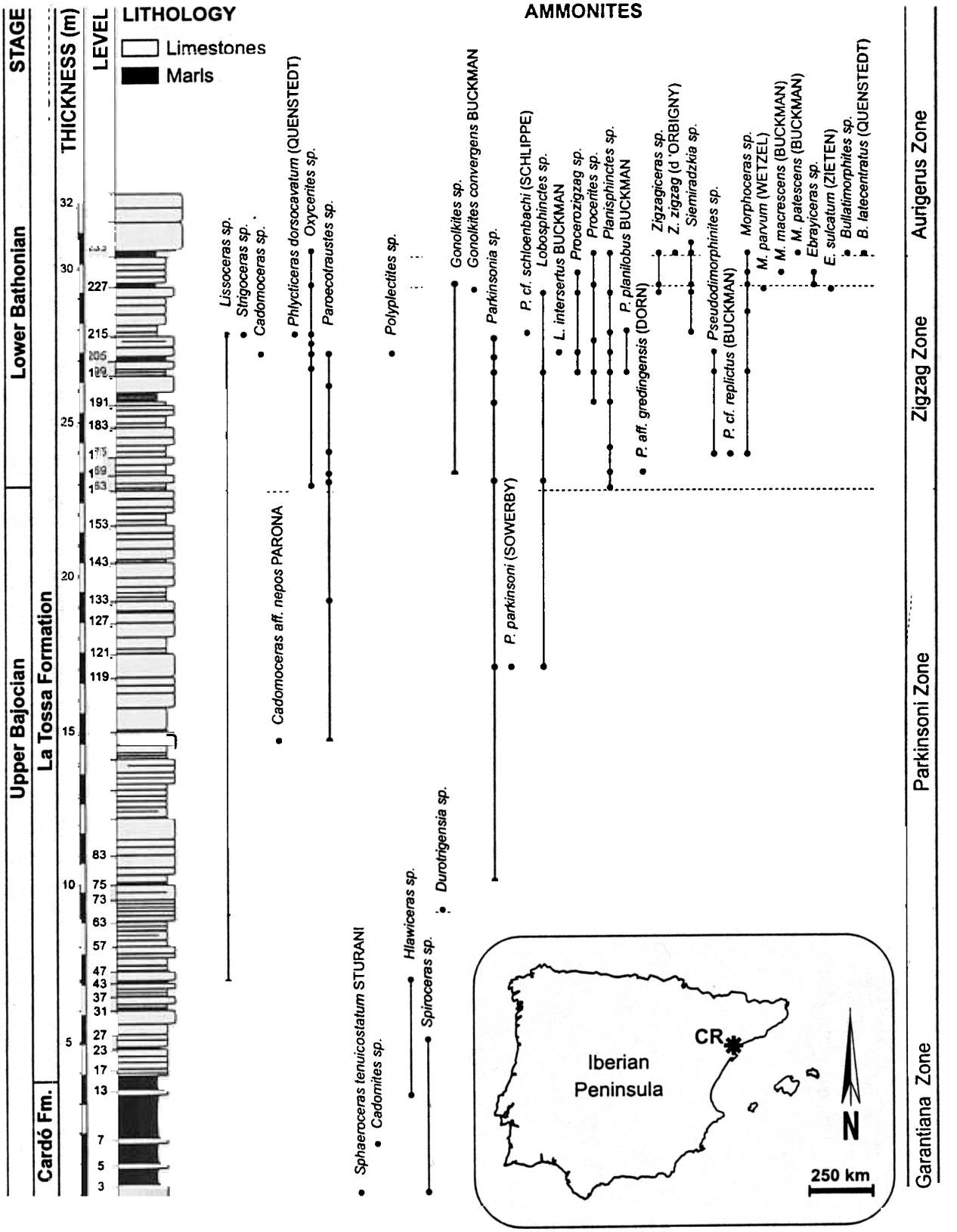

Biostratigraphical data of Upper Bajocian/Lower Bathonian ammonites in Serra de la Creu (CR, Tivissa, province of Tarragona, Catalan Basin, Spain).